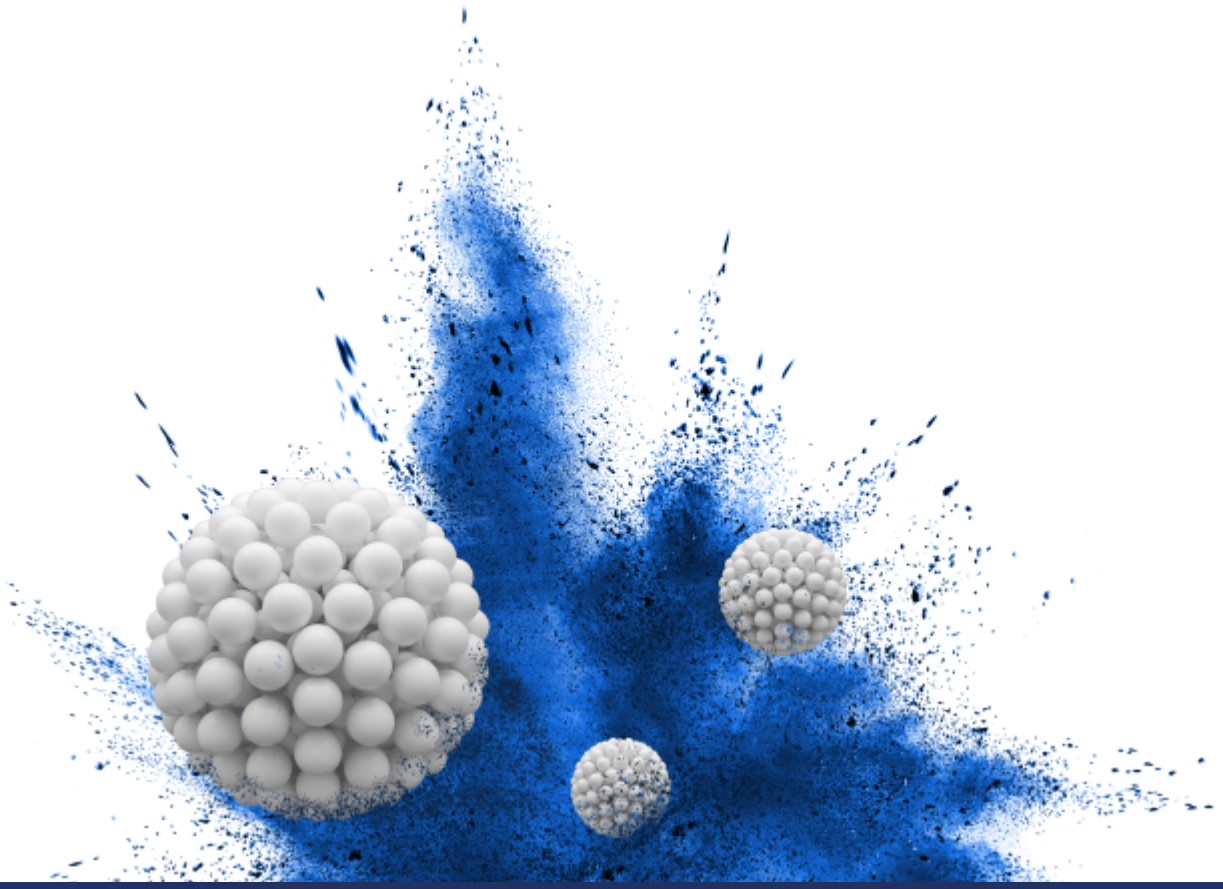
Dr. Maisch

Any Column, Any Size, Any Media



ReproSil XR

eXtRa High Purity Phases

MADE BY DR. MAISCH

CONTENT

- P 4 - eXtRa HIGH QUALITY HPLC PHASES
- P 5 - REPRODUCIBILITY AND PERFORMANCE
- P 6 - 9 - APPLICATIONS
- P 10 - 11 - REPROSIL XR C18MS

REPROSIL XR
MADE BY DR. MAISCH

From one of the biggest **H**igh-**P**erformance **L**iquid **C**hromatography (HPLC/UPLC) - Column Manufacturers in Europe.

Ako nás možno kontaktovať:

AZ CHROM s.r.o.
Robotnícka 10
831 03 Bratislava
Tel. 0907 244526
azetchrom@hplc.sk
www.azetchrom.sk

Choose Wisely - ReproSil XR

Dr. Maisch HPLC GmbH sets a new standard in HPLC columns. We make everything - from the silica particle to the finished product. Our streamlined manufacturing process allows delivery of the highest performance at an exceptional value!

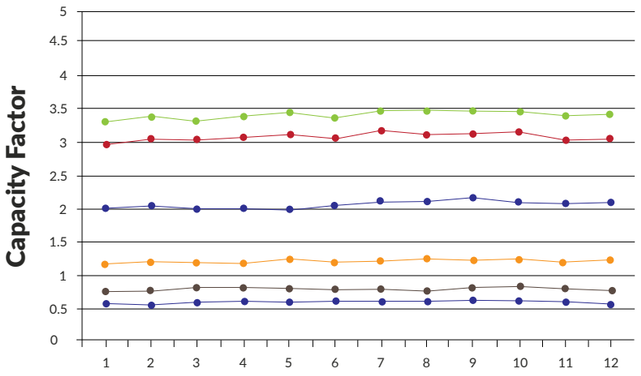
eXtRa high quality HPLC phases

Extra High purity silica and uniform bonded phase coverage translates to symmetrical peaks for acids/bases, and predictable reversed phase selectivity. Whether routine analysis or new method developments, use ReproSil XR columns to get premium performance for a low budget.

ReproSil XR	Specifications
Modifications	Silica, C18, C18(MS), C8, Phenyl, CN, SCX, SAX
Endcapping	(for C18, C8, Phenyl)
Surface area	250 m²/g , 100 m²/g
Pore size	120 Å, 300 Å
Particle size	1.5, 3, 3.5, 5, 7 and 10 µm

Reproducible Methods Start with Reproducible Columns

Highly Reproducible Selectivity



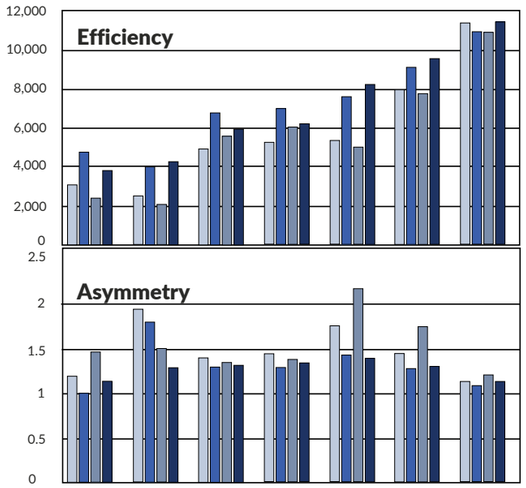
Tightly controlled silica synthesis and carefully performed bonding result in minimum variations of selectivity and capacity factors.

Batch

- Toluene
- N-butylbenzoic acid
- Anisole
- Acetophenone
- P-nitrophenol
- Amitriptyline

Consistent batch-to-batch capacity for acidic, basic & neutral compounds.

Expect competitive performance

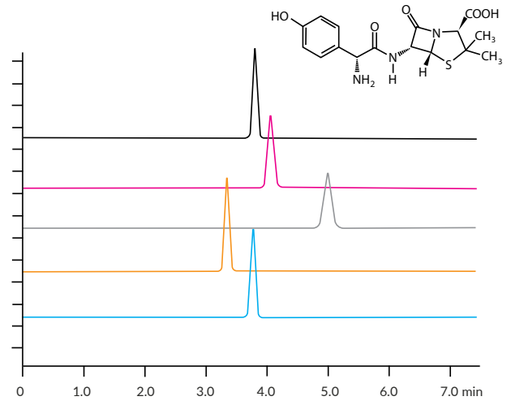


Efficient manufacturing processes are the driving force for competitive pricing. But certainly not at the risk of competitive performance. **ReproSil XR** columns show similar or better efficiency and asymetry for challenging basic and acidic compounds compared to industry leading LC columns.

- **ReproSil XR** **C18 Column**
- Competitor P C18 Column
- Competitor H C18 Column
- Competitor K C18 Column

ReproSil XR columns compares favorable to leading competitor columns.

Amoxicillin (U.S.P.)



- **ReproSil XR** **C18 Column**
- Competitor P C18 Column
- Competitor G C18 Column
- Competitor H C18 Column
- Competitor K C18 Column

Column: **ReproSil XR** 120 C18, 5 µm, 120 Å, 250 x 4.6 mm, (PN: rx15.9e.s2546)

Mobile phase: Isocratic, 50 mM KH_2PO_4, pH 5 : MeCN 96:4 (v:v)

Flow rate: 1.5 ml/min
Detector: UV at 230 nm
Column temp: 30° C
Injection vol: 10 µl

	ReproSil XR C18	Comp P C18	Comp G C18	Comp H C18	Comp K C18
Theoretical plates	**8650**	7240	6230	7060	7680
Tailing factor	**1.0**	1.2	1.1	1.0	1.0

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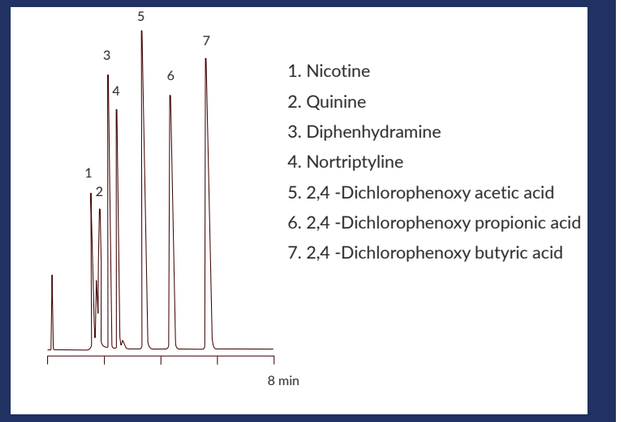
Standards Mix



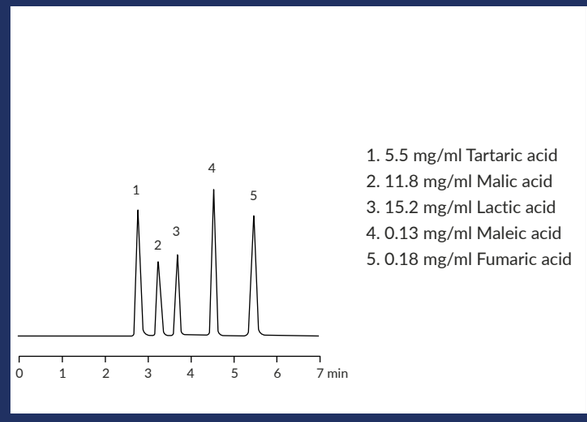
1. Nicotine
2. Quinine
3. Diphenhydramine
4. Nortriptyline
5. 2,4 -Dichlorophenoxy acetic acid
6. 2,4 -Dichlorophenoxy propionic acid
7. 2,4 -Dichlorophenoxy butyric acid

Column: **ReproSil XR** 120 C18, 5 µm, 120 Å, 150 x 4.6 mm (PN: rx15.9e.s1546)

Mobile phase: MeCN : 50 mM KH_2PO_4 50:50 (v:v) pH 3 at 35°C

Baseline resolution challenging separations.

Organic Acids

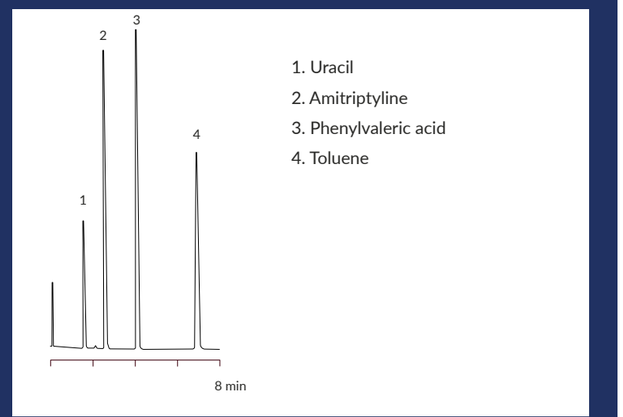


1. 5.5 mg/ml Tartaric acid
2. 11.8 mg/ml Malic acid
3. 15.2 mg/ml Lactic acid
4. 0.13 mg/ml Maleic acid
5. 0.18 mg/ml Fumaric acid

Column: **ReproSil XR** 120 C18, 5 µm, 120 Å, 150 x 4.6 mm (PN: rx15.9e.s1546)

Mobile phase: 25 mM KH_2PO_4 : MeOH 97:3 (v:v)
Flow rate: 0.7 ml/min
Detector: UV at 220 nm
Injection vol: 1 µl

Acids, Bases and Neutrals



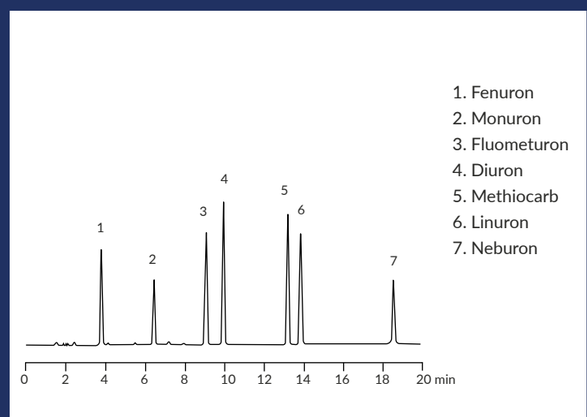
1. Uracil
2. Amitriptyline
3. Phenylvaleric acid
4. Toluene

Column: **ReproSil XR** 120 C18, 5 µm, 120 Å, 150 x 4.6 mm (PN: rx15.9e.s1546)

Mobile phase: MeCN : 50 mM KH_2PO_4 50:50 (v:v) pH 3 at 35°C

Symmetric peaks for acids and bases.

Carbamate & Urea



1. Fenuron
2. Monuron
3. Fluometuron
4. Diuron
5. Methiocarb
6. Linuron
7. Neburon

Column: **ReproSil XR** 120 C18, 5 µm, 120 Å, 150 x 4.6 mm (PN: rx15.9e.s1546)

Mobile phase: **A:** 25 mM KH_2PO_4 pH 3.2
B: MeCN

Gradient: (Time, %B): (0,30), (20,60)
Flow rate: 1.0 ml/min
Detector: UV at 240 nm
Injection vol: 10 µl

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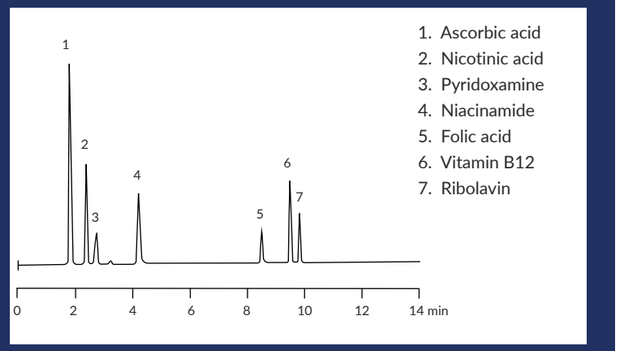
Water Soluble Vitamins



Column: **ReproSil XR** 120 C18, 5 µm, 120 Å, 150 x 4.6 mm (PN: rx15.9e.s1546)

Mobile phase: **A:** 100 mM $NH_4H_2PO_4$ Buffer, pH 4.5
B: MeCN

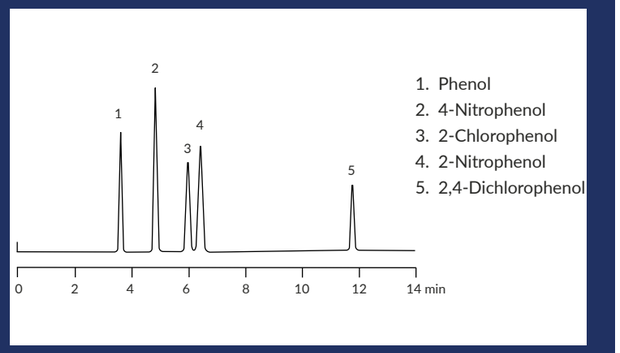
Gradient: (Time, %B): (0,5), (4,5), (10,40), (15,40)

Flow rate: 1.0 mL/min

Detector: UV at 254 nm

Injection vol: 2 µl

Phenols



Column: **ReproSil XR** 120 C18, 5 µm, 120 Å, 150 x 4.6 mm (PN: rx15.9e.s1546)

Mobile phase: **A**: 1% CH_3COOH in H_2O
B: 1% CH_3COOH in MeOH

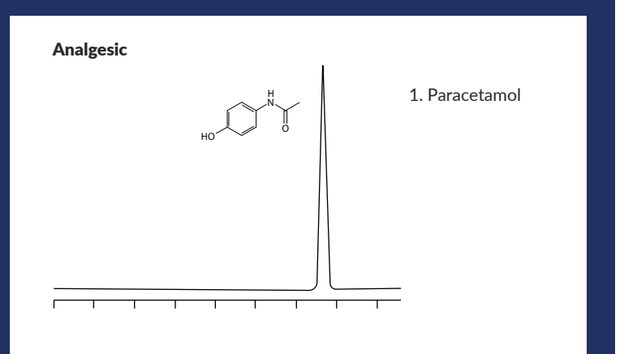
Gradient: (Time, %B): (0,45), (6,45) (8,60), (15,80)

Flow rate: 1.0 mL/min

Detector: UV at 280 nm

Injection vol: 10 µl

Paracetamol effervescent tablets on chinese pharmacopeia assay



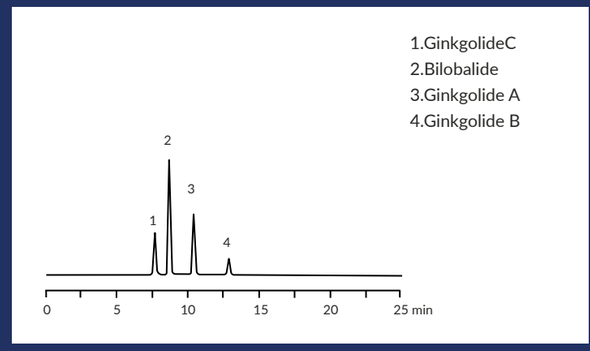
Column: **ReproSil XR** 120 C18, 5 µm, 120 Å, 250 x 4.6 mm (PN: rx15.9e.s2546)

Mobile phase: KH_2PO_4 : MeOH 80:20 (v:v)

Flow rate: 1.0 mL/min

Detector: UV at 254 nm

Folium Ginkgo



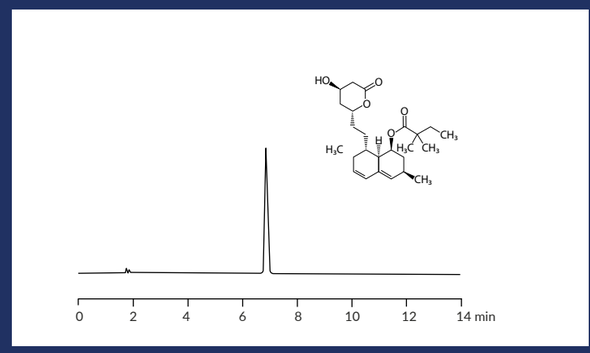
Column: **ReproSil XR** 120 C18, 5 µm, 120Å, 150 x 4.6 mm (PN: rx15.9e.s1546)

Mobile phase: MeOH:THF:H_2O 25:10:65 (v:v:v)

Flow rate: 1.0 ml/min

Detector: ELSD

Simvastatin Tablets (U.S.P)



Column: **ReproSil XR** 120 C18, 5 µm, 120 Å, 250 x 4.6 mm (PN: rx15.9e.s2546)

Mobile phase: 0.39% KH_2PO_4 pH 4.5 : MeCN 35:65 (v:v)

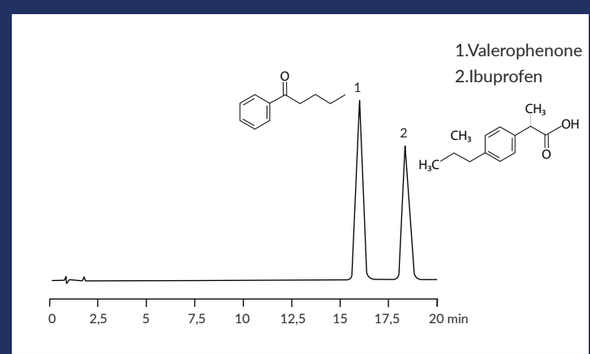
Flow rate: 1.5 ml/min

Detector: UV at 238 nm

Column temp: 45°C

Injection vol: 10 µl

Ibuprofen (U.S.P.)



Column: **ReproSil XR** 120 C18, 5 µm, 120 Å, 150 x 4.6 mm (PN: rx15.9e.s1546)

Mobile phase: H_2O (adjusted with H_3PO_4 to a pH of 2.5) : MeCN 65:35 (v:v)

Flow rate: 2 ml/min

Detector: UV at 214 nm

Injection vol: 5 µl

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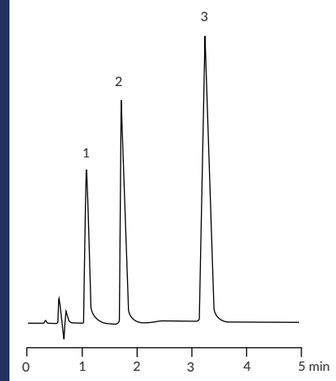
Difficult acids/bases or chelates? No Problem!

Outstanding features of ReproSil XR

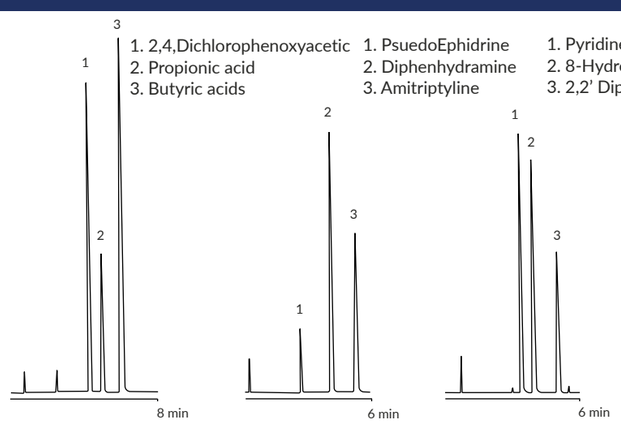
High Polarity:	Different selectivity to current phases.
High Base Retention:	Uses high % organic: helps MS detection.
Acids, Bases, Chelates:	All the benefits of pure silica.
100% Aqueous Stability:	Resists phase collapse.
Compatible with MS buffers:	Good with volatile buffers.
High Stability:	No embedded phase to limit stability.
Low MS bleed:	Helps MS Detection.

Separate Highly Basic Components at Neutral PH



Column: **ReproSil XR** 120 C18MS, 1.5 µm, 120 Å, 50 x 2.0 mm
Mobile phase: (PN: rx115.9ms.s0502) 50mM NH_4COOH, pH 7: MeOH (20:80)
Column Temp: 40°C
Flow rate: 0.2mL/min
Detector: UV at 210nm

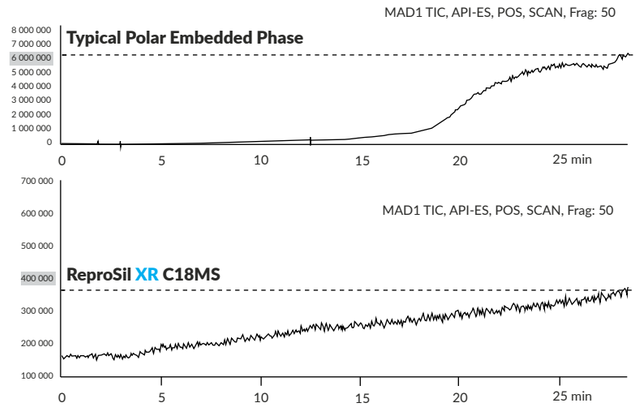
Excellent Peak Shape for Acids, Bases and Chelates



Column: **ReproSil XR** 120 C18MS, 5 µm, 120 Å, 150 x 4.6 mm
Mobile phase: (PN: rx15.9ms.s1546) 50% MeCN : 50% 50 mM KH_2PO_4 pH 3,
Column Temp: 35°C
Flow rate:

MS Bleeding reduced by Factor 17

Comparison of MS Bleeding

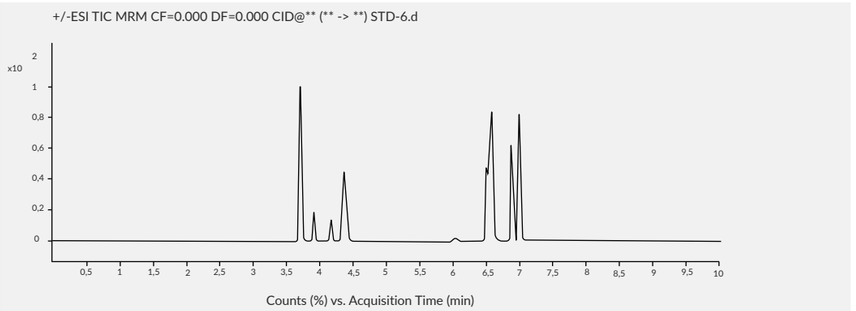


ReproSil XR 120 C18MS shows minimal bleed when used in LC/MS with TFA gradients. The first trace shows bleed levels typical of polar embedded/endcapped product.

4 Important Benefits

- Higher methanol level for improved MS sensitivity
- 2.5 x lower ammonium formate entering the MS (10% aqueous vs. 25%)
- Half the backpressure due to lower viscosity.
- Faster analysis due to the potential to use higher flowrate without excessive backpressure.

Pesticides



Fragmentor Voltage 150 Collision Energy 45 Ionization Mode ESI

Column: **ReproSil XR** 120 C18MS, 1.5µm, 120 Å, 10 x 2mm
Mobile phase: A: H_2O
B: MeCN

Gradient:

A:	0	2	3	5	6	8	8.1	10
B:	5	5	35	35	95	95	5	5

Flow rate: 0.4ml/min
Detector: 6400 Series Triple Quadrupole

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